TITLE: FLEXIBLE TAPE ELECTRONICS PACKAGING AND METHODS OF MANUFACTURE INVENTORS NAME: Ajit V. Sathe

SERIAL NO.: 09/893,036

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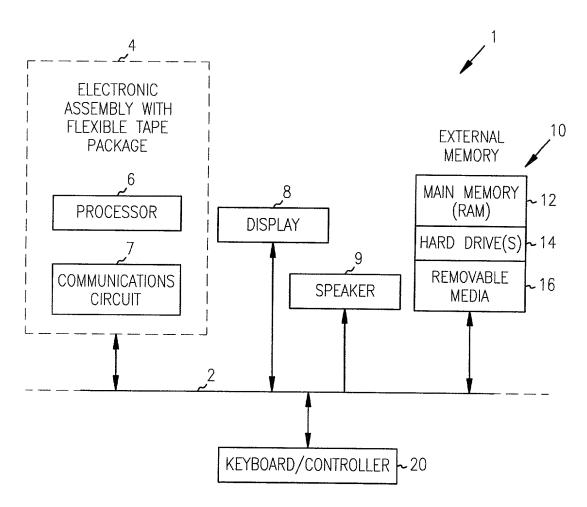
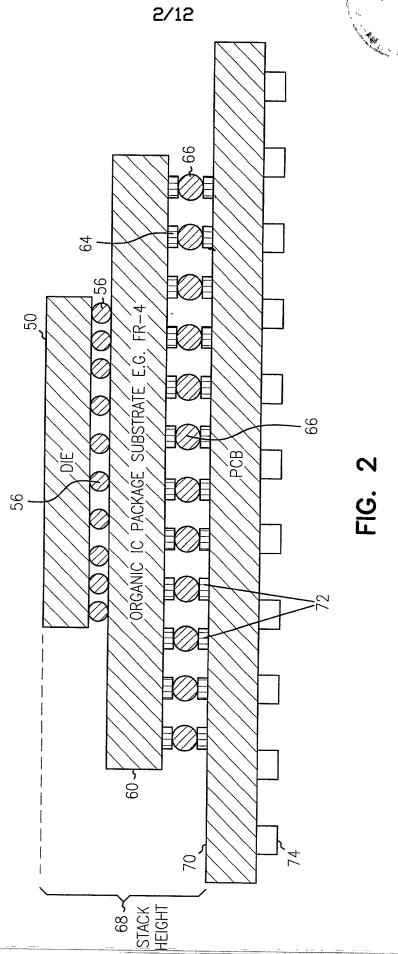
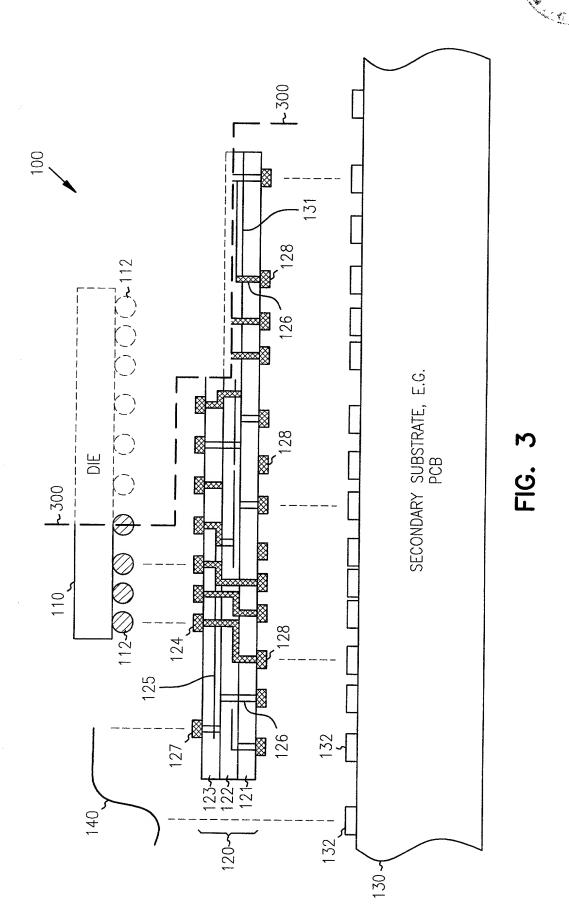


FIG. 1



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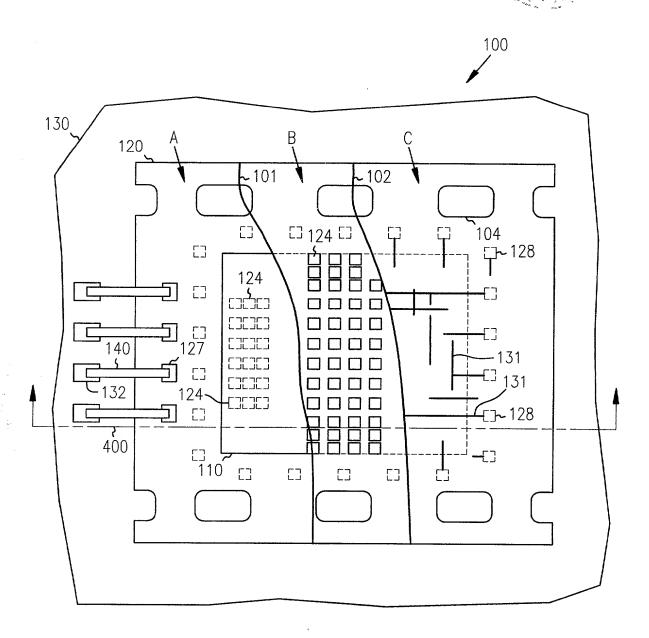
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TITLE: FLEXIBLE TAPE ELECTRONICS PACKAGING AND METHODS OF MANUFACTURE INVENTORS NAME: Ajit V. Sathe

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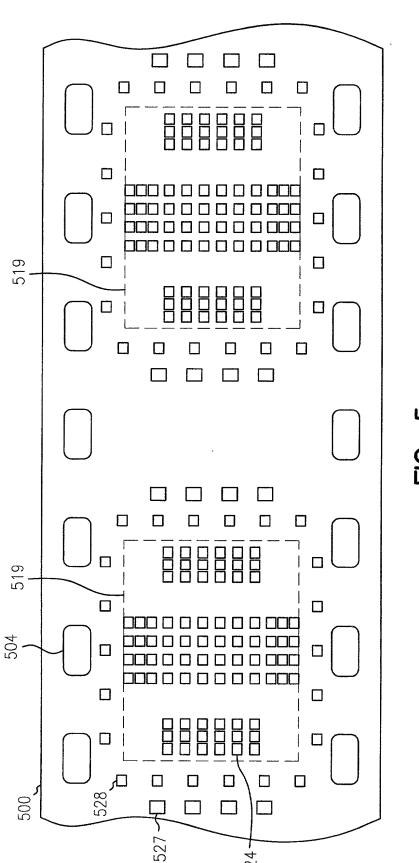
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FIG. 4

INVENTORS NAME: Ajit V. Sathe SERIAL NO.: 09/893,036

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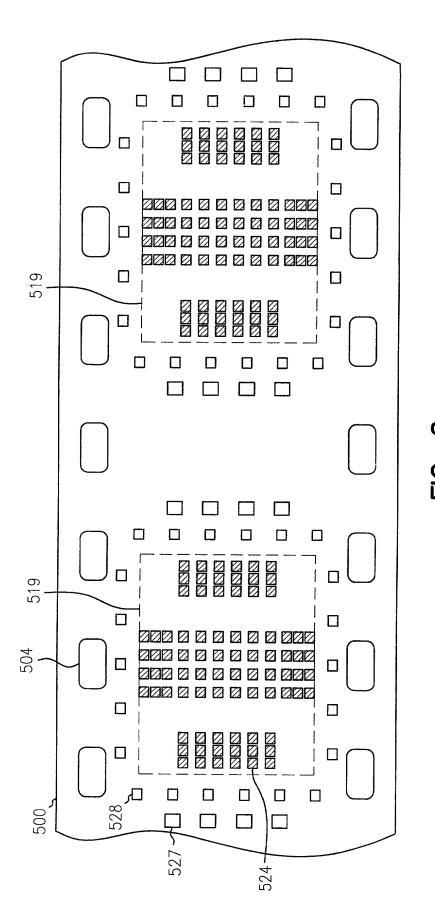
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FIG. 5

INVENTORS NAME: Ajit V. Sathe SERIAL NO.: 09/893,036

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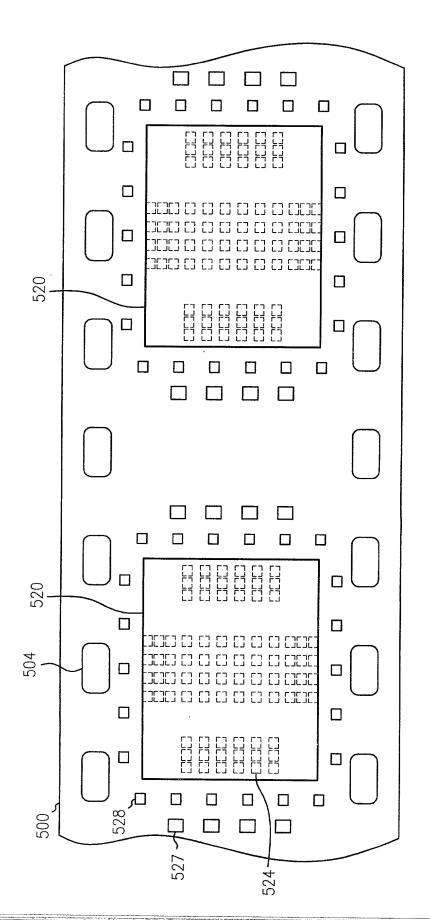


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FIG. 6

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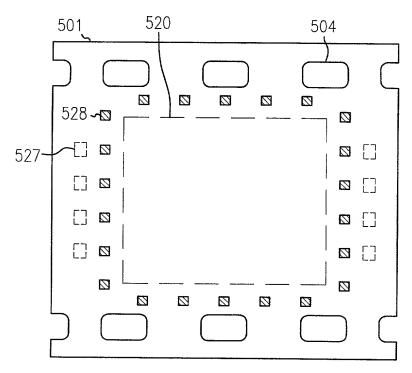
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FIG. 7

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FIG. 8

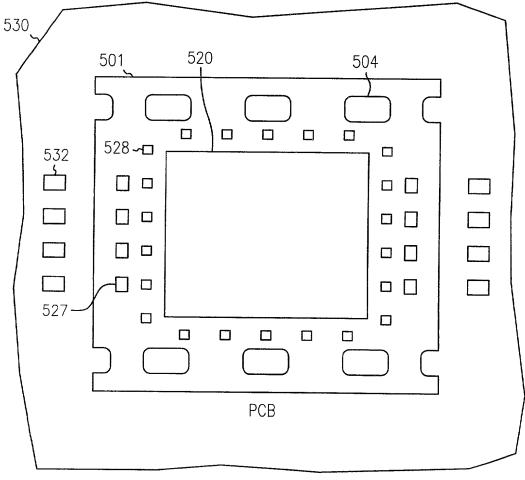
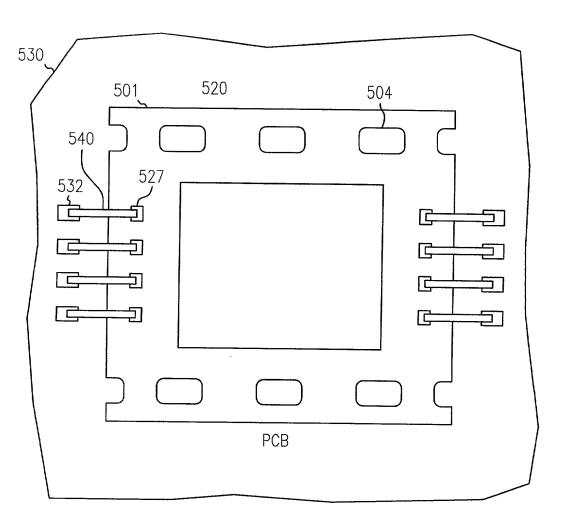


FIG. 9

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Control Holy Joseph Brown Control Brown Control Brown

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FIG. 10

TITLE: FLEXIBLE TAPE ELECTRONICS PACKAGING AND METHODS OF MANUFACTURE INVENTORS NAME: Ajit V. Sathe

SERIAL NO.: 09/893,036

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METHOD OF MAKING A FLEXIBLE IC PACKAGE SUBSTRATE

602

METHOD OF MAKING A FLEXIBLE IC PACKAGE SUBSTRATE

- THE SUBSTRATE IS FORMED OF MATERIAL SUCH AS A POLYMERIC FILM, POLYIMIDE, POLYESTER, POLYPARABANIC ACID, EPOXY, FIBERGLASS, OR COMBINATION THEREOF
- THE SUBSTRATE HAS A CONDUCTOR REGION ADAPTED TO MOUNT AN IC
- THE SUBSTRATE CAN INCLUDE FROM 1 TO N LAYERS
- THE SUBSTRATE CAN COMPRISE SPROCKET HOLES OUTSIDE THE CONDUCTOR REGION

604

FORM A PLURALITY OF TRACES IN THE CONDUCTOR REGION

- THE TRACES CAN BE FORMED ON DIFFERENT LAYERS

606

FORM A PLURALITY OF LANDS COUPLED TO CERTAIN TRACES

- LANDS CAN BE FORMED ON OPPOSITE, SURFACES OF THE SUBSTRATE
- LANDS CAN BE ARRANGED IN A BALL GRID ARRAY

608

FORM SOLDER BALLS ON THE PLURALITY OF LANDS

- THE SOLDER BALLS CAN BE FORMED ON DIFFERENT GROUPS OF THE LANDS, E.G. A FIRST SET TO COUPLE TO AN IC, A SECOND SET TO COUPLE TO A PCB

END >~610

FIG. 11

11/12

METHOD OF MAKING AN ELECTRONIC ASSEMBLY

702

700

- THE SUBSTRATE IS FORMED OF MATERIAL SUCH AS A POLYMERIC FILM, POLYIMIDE, POLYESTER, POLYPARABANIC ACID, EPOXY, FIBERGLASS, OR COMBINATION THEREOF
- THE SUBSTRATE HAS A CONDUCTOR REGION
- THE CONDUCTOR REGION INCLUDES A PLURALITY OF TRACES AND A PLURALITY OF LANDS COUPLED TO CERTAIN TRACES
- THE SUBSTRATE CAN INCLUDE FROM 1 TO N LAYERS, EACH COMPRISING A PLURALITY OF TRACES IN THE CONDUCTOR REGION
- THE LANDS CAN BE FORMED ON DIFFERENT LAYERS
- THE SUBSTRATE CAN COMPRISE SPROCKET HOLES OUTSIDE THE CONDUCTOR REGION

704

FORM SOLDER BALLS ON A FIRST SET OF THE LANDS

- THE FIRST SET OF LANDS CAN BE A BALL GRID ARRAY

706

COUPLE PADS OF AN IC TO CORRESPONDING ONES
OF THE FIRST SET OF LANDS

(12B

FIG. 12A

the transport of the control of the

12/12

(12A)

708

MOUNT THE SUBSTRATE ON AN ADDITIONAL SUBSTRATE, E.G. A PCB

EMPLOY EITHER OR BOTH OF THE FOLLOWING:

- USE BGA BETWEEN SUBSTRATE AND PCB
 - FORM SOLDER BALLS ON A SECOND SET OF THE LANDS
 - COUPLE ONES OF THE SECOND SET OF LANDS TO CORRESPONDING TERMINALS ON THE PCB
- USE LEADS BETWEEN SUBSTRATE AND PCB
 - COUPLE LEADS, E.G. WIRES, BETWEEN CORRESPONDING ONES OF A THIRD SET OF LANDS AND ADDITIONAL TERMINALS OF THE PCB

END ~710

FIG. 12B

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